

### **AMENDMENTS**

Please enter the following amendments into the claim of the subject application.

#### **In the Claims:**

1. (Currently Amended) A method for preparing a biopolymer array production system for operation, the method comprising:

selecting at least one a printhead assembly comprising a printhead **multiple printheads, wherein each of said printheads comprises multiple nozzle orifices;**

entering, by an operator or electronically reading, printhead-related data including criteria selected from one or more of: the type of **each of** said printheads, **wherein said type is selected from a piezo-based printhead, a thermal-based printhead or a resistance-based printhead,** number of **said** printheads of said printhead assembly, type of nozzle plate on **each of** said printheads, alignment method of said nozzle plate, number of wells per **each of** said printheads, number of **nozzle** orifices per **said** well, number of nozzle rows per **each of** said printheads, spacing between said **printhead nozzle** orifices, and spacing between said nozzle rows; and

configuring, with a computer processor, a printhead control routine based on said entered data, in order to control printhead function.

2. (Original) The method of claim 1, wherein a user interface prompts user entry of at least one of said criteria.

3. (Original) The method of claim 2, wherein a user enters at least one of said criteria.

4. (Currently Amended) The method of claim 1 wherein said type of printheads, number of **such said** printheads, type of nozzle plate and alignment method are Printhead Assembly Objects, and said number of wells per **each of said** printheads, number of **nozzle** orifices per **each of said** wells, number of nozzle rows per **each**

of said printheads, spacing between printhead nozzle orifices and spacing between nozzle rows are Printhead Group Objects, as treated by said processor.

5. (Previously Presented) The method of claim 4, wherein, when one or more data selected from Printhead Assembly Objects is entered and one or more data selected from Printhead Group Objects is entered, said processor first configures a portion of said control routine based on said entered data from Printhead Assembly Objects, then configures another portion of said control routine based on said entered data from Printhead Group Objects in relation to said entered data from Printhead Assembly Objects.

6. (**Currently Amended**) A method for preparing a biopolymer array production system for operation, the method comprising:

selecting at least one a printhead assembly comprising a printhead multiple printheads, wherein each of said printheads comprises multiple nozzle orifices;

providing printhead-related data including Printhead Assembly Object criteria and Printhead Group Object criteria, said Printhead Assembly Object criteria selected from the type of each of said printheads, wherein said type is selected from a piezo-based printhead, thermal-based printhead or a resistance-based printhead, number of said printheads of said printhead assembly, type of nozzle plate on each of said printheads and alignment method of said nozzle plate, said Printhead Group Object criteria selected from a number of wells per each of said printheads, number of nozzle orifices per said well, number of nozzle rows per each of said printheads, spacing between said printhead nozzle orifices and spacing between said nozzle rows; and

~~providing printhead-related data including Printhead Assembly Object criteria and Printhead Group Object criteria, said Printhead Assembly Object criteria selected from the type of said printhead, number of printheads of said printhead assembly, type of nozzle plate on said printhead and alignment method of said nozzle plate, said Printhead Group Object criteria selected from a number of wells per said printhead, number of orifices per said well, number~~

~~of nozzle rows per said printhead, spacing between said printhead orifices and spacing between said nozzle rows; and~~

configuring, with a computer processor, a printhead control routine based on said data by first producing a portion of said control routine based on said Printhead Assembly Objects, then producing another portion of said routine based on said Printhead Group Objects in relation to said Printhead Assembly Objects.

7. (Original) The method of claim 6, wherein an operator enters information corresponding to at least a portion of said printhead-related data.

8. (Previously Presented) The method of claim 6, wherein said printhead-related data is read from electronic media associated with said printhead assembly when said assembly is plugged into said system.

9. **(Currently Amended)** A method of producing a biopolymer array, the method comprising:

providing a production system prepared according to the method of any of claims 1 through 7, and

controlling said system by said control routine to print a biopolymer array by ejecting reagent drops from any of said printhead printheads spaced from a substrate surface during movement, ~~an ejection head of said printheads~~ and said surface relative to each other,

wherein said reagent drops are ejected according to a predetermined pattern onto said surface to produce said array.

10. (Previously Presented) The method of claim 9, wherein said biopolymers are polynucleotides or polypeptides.

11. (Canceled)

12. (Previously Presented) A method of detecting the presence of an analyte in a sample, said method comprising:

producing a biopolymer array according to the method of claim 9;  
contacting a sample suspected of comprising said analyte with said biopolymer array; and  
detecting any binding complexes on the surface of said biopolymer array to obtain binding complex data.

13. (Original) The method of claim 12, wherein said analyte is a nucleic acid.
14. (Previously Presented) A method comprising transmitting data resulting from a detecting according to claim 12, from a first location to a remote location.
15. (Previously Presented) A method comprising receiving data representing a result of a reading obtained by the method of claim 12.
16. (Original) A method comprising forwarding data representing a result of a reading an array fabricated by the method of claim 12.
17. (Previously Presented) A computer-readable medium comprising a program as configured by the method of claim 1 to direct an array fabrication apparatus.
- 18-20. (Canceled)
21. (Previously Presented) A kit comprising the computer readable medium of claim 17, in packaged combination with instructions for use with the same.

Please add the following claims:

22. (**New**) The method of Claim 1, wherein said printhead assembly comprises multiple printhead groups, each of which can print a complete set of fluids to be dispensed by said printhead assembly.
23. (**New**) The method of Claim 1, wherein said entering step comprises entering

printhead-related data including criteria for both the type of each of said printheads and alignment method of said nozzle plate.

24. **(New)** The method of Claim 1, wherein said entering step comprises entering printhead-related data including criteria for both the number of said printheads of said printhead assembly and alignment method of said nozzle plate.

25. **(New)** The method of Claim 1, wherein said entering step comprises entering printhead-related data including criteria for both the number of nozzle rows per each of said printheads and the spacing between said nozzle rows.

26. **(New)** The method of Claim 1, wherein said entering step comprises entering printhead-related data comprising all of said criteria.